

CLAIMS

What is claimed is:

- 1 1. A method comprising:
2 receiving a data packet from a source;
3 determining whether a session identity exists for a communication session with
4 the source;
5 transmitting the data packet to a destination if no session identity exists;
6 receiving the session identity from the destination; and
7 transmitting subsequent data packets received from the source along with the
8 session identity to the destination.
- 1 2. The method of claim 1 wherein determining whether a session identity exists for a
2 communication session with the source comprises:
3 obtaining address information from the data packet; and
4 searching a table using the address information for the session identity.
- 1 3. The method of claim 2 wherein searching a table using the address information
2 for the session identity comprises:
3 using the address information in a hash function to obtain a hash value; and
4 using the hash value to find the session identity.

1 4. The method of claim 1 wherein transmitting the data packet to a destination if no
2 session identity exists comprises:

3 selecting a particular destination;

4 adding a header to the received data packet; and

5 transmitting the header along with the received data packet to the destination.

1 5. The method of claim 4 wherein adding a header to the received data packet
2 comprises:

3 including at least one of a flow message type field, a flow option field, a source
4 port identity field, a destination identity field and a session identity field in the header of
5 the received data packet.

1 6. The method of claim 1 further comprising:

2 removing a header prior to transmitting data packets received from the destination
3 to the source; and

4 using information in the header to transmit data packets received from the
5 destination to the source.

1 7. The method of claim 6 wherein the information in the header comprises the
2 source port identity.

1 8. The method of claim 1 wherein transmitting subsequent data packets received
2 from the source along with the session identity to the destination comprises:

3 adding a header including at least one of a flow message type field, a flow option field, a
4 source port identity field, a destination identity field, and a session identity field; and not
5 transmitting at least part of address information in the received subsequent data packets
6 to the destination.

1 9. A method comprising:
2 receiving a data packet from a source through a network node;
3 determining whether a session identity exists for a communication session with
4 the source;
5 generating a session identity if no session identity exists; and
6 transmitting the session identity to the network node.

1 10. The method of claim 9 wherein determining whether a session identity exists for a
2 communication session with the source comprises:
3 obtaining the session identity from the data packet if one is included in the data
4 packet;
5 obtaining address information of the network node; and
6 transmitting data to the network node using the address information.

1 11. The method of claim 10 wherein obtaining address information of the network
2 node using the session identity comprises using the session identity as a pointer to the
3 network node's address information.

1 12. The method of claim 10 wherein transmitting data to the network node using the
2 address information comprises not transmitting at least part of the source's address
3 information in the received data packet.

1 13. An article of manufacture comprising:
2 a machine-accessible medium including instructions that, when executed by a
3 machine, causes the machine to perform operations comprising:
4 receiving a data packet from a source;
5 determining whether a session identity exists for a communication session with
6 the source;
7 transmitting the data packet to a destination if no session identity exists;
8 receiving the session identity from the destination; and
9 transmitting subsequent data packets received from the source along with the
10 session identity to the destination.

1 14. An article of manufacture as in claim 13 wherein instructions for determining
2 whether a session identity exists for a communication session with the source comprises
3 further instructions for:
4 obtaining address information from the data packet; and
5 searching a table using the address information for the session identity.

1 15. An article of manufacture as in claim 14 wherein instructions for searching a table
2 using the address information for the session identity comprises further instructions for

3 using the address information in a hash function to obtain a hash value; and
4 using the hash value to find the session identity.

1 16. An article of manufacture as in claim 13 wherein instructions for transmitting the
2 data packet to a destination if no session identity exists comprises further instructions for:
3 selecting a particular destination;
4 adding a header to the received data packet; and
5 transmitting the header along with the received data packet to the destination.

1 17. An article of manufacture as in claim 16 wherein instructions for adding a header
2 to the received data packet comprises further instructions for:
3 including at least one of a flow message type field, a flow option field, a source
4 port identity field, a destination identity field and a session identity field in the header of
5 the received data packet.

1 18. An article of manufacture as in claim 13 comprising further instructions for
2 removing a header prior to transmitting data packets received from the destination to the
3 source; and
4 using information in the header to transmit data packets received from the
5 destination to the source.

1 19. An article of manufacture as in claim 18 wherein instructions for using
2 information in the header to transmit data packets received from the destination to the

3 source comprises instructions for using the source port identity to transmit data packets
4 received from the destination to the source.

1 20 An article of manufacture as in claim 13 wherein instructions for transmitting
2 subsequent data packets received from the source along with the session identity to the
3 destination comprises further instructions for adding a header including at least one of a
4 flow message type field, a flow option field, a source port identity field, a destination
5 identity field, and a session identity field; and not transmitting at least part of address
6 information in the received subsequent data packets to the destination.

1 21. An article of manufacture comprising:
2 a machine-accessible medium including instructions that, when executed by a
3 machine, causes the machine to perform operations comprising:
4 receiving a data packet from a source through a network node;
5 determining whether a session identity exists for a communication session with
6 the source;
7 generating a session identity if no session identity exists; and
8 transmitting the session identity to the network node.

1 22. An article of manufacture as in claim 21 wherein determining whether a session
2 identity exists for a communication session with the source comprises further instructions
3 for:

4 obtaining the session identity from the data packet if one is included in the data
5 packet;
6 obtaining address information of the network node; and
7 transmitting data to the network node using the address information.

1 23. An article of manufacture as in claim 22 wherein obtaining address information of
2 the network node using the session identity comprises further instructions for using the
3 session identity as a pointer to the network node's address information.

1 24. An article of manufacture as in claim 21 wherein instructions for transmitting data
2 to the network node using the address information comprises further instructions for not
3 transmitting at least part of the source's address information in the received data packet.

1 25. A computer system comprising:
2 a bus;
3 a data storage device coupled to said bus; and
4 a processor coupled to said data storage device, said processor operable to receive
5 instructions which, when executed by the processor, cause the processor to perform a
6 method comprising
7 receiving a data packet from a source;
8 determining whether a session identity exists for a communication session with
9 the source;
10 transmitting the data packet to a destination if no session identity exists;

11 receiving the session identity from the destination; and
12 transmitting subsequent data packets received from the source along with the
13 session identity to the destination.

1 26. A computer system as in claim 25 wherein determining whether a session identity
2 exists for a communication session with the source comprises:
3 obtaining address information from the data packet; and
4 searching a table using the address information for the session identity.

1 27. A computer system as in claim 26 wherein searching a table using the address
2 information for the session identity comprises:
3 using the address information in a hash function to obtain a hash value; and
4 using the hash value to find the session identity.

1 28. A computer system as in claim 25 wherein transmitting the data packet to a
2 destination if no session identity exists comprises:
3 selecting a particular destination;
4 adding a header to the received data packet; and
5 transmitting the header along with the received data packet to the destination.

1 29. A computer system as in claim 28 wherein adding a header to the received data
2 packet comprises:

3 including at least one of a flow message type field, a flow option field, a source
4 port identity field, a destination identity field and a session identity field in the header of
5 the received data packet.

1 30. A computer system as in claim 25 further comprising:
2 removing a header prior to transmitting data packets received from the destination
3 to the source; and
4 using information in the header to transmit data packets received from the
5 destination to the source.

1 31. A computer system as in claim 30 wherein the information in the header
2 comprises the source port identity.

1 32. A computer system as in claim 25 wherein transmitting subsequent data packets
2 received from the source along with the session identity to the destination comprises
3 adding a header including at least one of a flow message type field, a flow option field, a
4 source port identity field, a destination identity field, and a session identity field; and not
5 transmitting at least part of address information in the received subsequent data packets
6 to the destination.

1 33. A computer system comprising:
2 a bus;
3 a data storage device coupled to said bus; and

4 a processor coupled to said data storage device, said processor operable to
5 receive instructions which, when executed by the processor, cause the processor to
6 perform a method comprising receiving a data packet from a source through a network
7 node;
8 determining whether a session identity exists for a communication session with
9 the source;
10 generating a session identity if no session identity exists; and
11 transmitting the session identity to the network node.

1 34. A computer system as in claim 33 wherein determining whether a session identity
2 exists for a communication session with the source comprises:
3 obtaining the session identity from the data packet if one is included in the data
4 packet;
5 obtaining address information of the network node using the session identity; and
6 transmitting data to the network node using the address information.

1 35. A computer system as in claim 34 wherein obtaining address information of the
2 network node using the session identity comprises using the session identity as a pointer
3 to the network node's address information.

1 36. A computer system as in claim 34 wherein transmitting data to the network node
2 using the address information comprises not transmitting at least part of the source's
3 address information in the received data packet.

1 37. A method comprising:
2 receiving a data packet from a source with a session identity;
3 storing the session identity if needed;
4 removing the session identity from the data packet; and
5 transmitting the data packet to a destination.

1 38. A method as in claim 37 wherein receiving a data packet from a source with a
2 session identity comprises receiving the data packet with the session identity
3 encapsulated in a header.

1 39. A method as in claim 37 wherein storing the session identity comprises storing
2 the session identity in a forwarding table.

1 40. An article of manufacture comprising:
2 a machine-accessible medium including instructions that, when executed by a
3 machine, causes the machine to perform operations comprising:
4 receiving a data packet from a source with a session identity;
5 storing the session identity if needed;
6 removing the session identity from the data packet; and
7 transmitting the data packet to a destination.

1 42. An article of manufacture as in claim 40 wherein said instructions for storing the
2 session identity comprises further instructions for storing the session identity in a
3 forwarding table.